

In the Claims:

1. (original) A preparation method for a solid titanium catalyst for olefin polymerization, which comprises the steps of:
 - (1) preparing a magnesium compound solution by dissolving a magnesium halide compound into a mixed solvent of a cyclic ether and one or more of alcohol;
 - (2) preparing a carrier by adding firstly a titanium halide compound having a general formula of $\text{Ti}(\text{OR})_a\text{X}_{(4-a)}$, in which R is an a (4-a) alkyl group having 1-10 carbon atoms, X is a halogen atom and a is an integer of 0-3, to the magnesium compound solution at -10-30°C, elevating the temperature of the resulted solution or aging it, and then thereto adding secondly the titanium halide compound additionally;
 - (3) preparing a titanium catalyst by reacting the carrier with a titanium compound and an electron donor; and
 - (4) washing the titanium catalyst with hydrocarbon solvent at 40-200°C.
2. (original) The preparation method for a solid titanium catalyst for olefin polymerization according to claim 1, characterized in that the cyclic ether used in the step (1) is tetrahydrofuran or 2-methyltetrahydrofuran, and the one or more of alcohol used in the step (1) is primary or polyhydric alcohol having 2-12 carbon atoms.
3. (currently amended) The preparation method for a solid titanium catalyst for olefin polymerization according to claim 1 ~~or 2~~, characterized in that the molar ratio of the cyclic ether to the one or more of alcohol used in the step (1) is 1:0.1 - 1:10.
4. (original) The preparation method for a solid titanium catalyst for olefin polymerization according to claim 1, characterized in that the molar ratio of the firstly-added titanium halide compound to the mixed solvent of cyclic ether and one or more of alcohol in the step (2) is 1:3.0 - 1: 10.

5. (original) The preparation method for a solid titanium catalyst for olefin polymerization according to claim 1, characterized in that the washing of the titanium catalyst is repeated 2-10 times with hydrocarbon solvent at 40-200°C in the step (4).

6. (new) The preparation method for a solid titanium catalyst for olefin polymerization according to claim 2, characterized in that the molar ratio of the cyclic ether to the one or more of alcohol used in the step (1) is 1:0.1 - 1:10.